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The invention claimed is:

**1.** A vibratory conveyor, comprising:

a base member;

a trough member having a side wall;

a plurality of springs extending from said base member to  
said trough member to support said trough member  
from said base member;

a connector plate connected to one of said springs and  
having at least one fastener hole; and

at least one fastener having a head and a threaded shank,  
said shank penetrating through said side wall, said head  
located within said trough member and sealed to said  
side wall, and said shank penetrating said fastener hole  
of said connector plate; and

at least one nut, said nut threaded onto said shank to fasten  
said connector plate to said side wall.

**2.** The conveyor according to claim **1**, wherein said head  
includes a substantially beveled profile within said trough.

**3.** The conveyor according to claim **1**, further comprising  
a lock washer arranged between said nut and said connector  
plate.

**4.** The conveyor according to claim **2**, wherein said head  
is beveled at an angle of taper around a circumference of  
said head.

**5.** The conveyor according to claim **1**, wherein said  
springs comprise leaf springs.

**6.** A method of attaching a leaf spring to a trough member  
of a vibratory conveyor, comprising the steps of:

providing at least one fastener having a head and a shank;

attaching said fastener to said trough member by fixing  
said head to said trough member;

providing a connection plate having at least one fastener  
hole;

inserting said shank through said fastener hole; and

providing a nut and tightening said nut onto said shank to  
attach said connection plate to said trough member,

wherein said step of providing said fastener is further  
defined in that said head has a beveled profile and is  
located against an inside surface of a side wall said  
trough member, and said step of fixing said head is  
further defined in that said head is welded all around to  
said inside surface of said side wall.

**7.** The method according to claim **6**, wherein said head is  
beveled at an angle of taper around a circumference of said  
head.

**8.** A method of attaching a leaf spring to a trough member  
of a vibratory conveyor, comprising the steps of:

providing at least one fastener having a head and a shank;

attaching said fastener to said trough member by fixing  
said head to said trough member;

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providing a connection plate having at least one fastener  
hole;

inserting said shank through said fastener hole; and

providing a nut and tightening said nut onto said shank to  
attach said connection plate to said trough member,

wherein said step of fixing said head is further defined in  
that said head is welded to a side wall of said trough  
member.

**9.** The method according to claim **8**, wherein said step of  
fixing said head is further defined in that said head is welded  
all around to an inside surface of a side wall of said trough  
member, and said shank penetrates through said side wall.

**10.** The method according to claim **8**, wherein said step of  
fixing said head is further defined in that said head is welded  
to a side wall of said trough member by an inert gas welding  
technique.

**11.** The method according to claim **8**, wherein said step of  
fixing said head is further defined in that said head is TIG  
welded to a side wall of said trough member.

**12.** A vibratory conveyor, comprising:

a base member;

a trough member having a side wall;

a plurality of springs extending from said base member to  
said trough member to support said trough member  
from said base member;

a connector plate connected to one of said springs and  
having at least one fastener hole; and

at least one fastener having a head and a threaded shank,  
said shank penetrating through said side wall, said head  
fixed to said side wall, and said shank penetrating said  
fastener hole of said connector plate; and

at least one nut, said nut threaded onto said shank to fasten  
said connector plate to said side wall,

wherein said head has a perimeter and is welded all  
around said perimeter to said side wall.

**13.** The conveyor according to claim **12**, wherein said  
head is welded all around said perimeter to an inside surface  
of said side wall.

**14.** A method of attaching a leaf spring to a trough  
member of a vibratory conveyor, comprising the steps of:

providing at least one fastener having a head and a shank;

sealing said head to said trough member;

providing a connection plate having at least one fastener  
hole;

inserting said shank through said fastener hole; and

providing a nut and tightening said nut onto said shank to  
attach said connection plate to said trough member.

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